REMARKS

CLAIM STATUS

Claim 7 was previously canceled in the Preliminary Amendment filed April 17, 2006. Claims 17-27 and 30-38 have been withdrawn by the Examiner. Without prejudice or disclaimer, claim 3 and withdrawn claims 17-27 and 30-38 are canceled and claims 1, 12, and 28 are currently amended. Additionally, claim 15 is currently amended solely to insert the article "a" before post-transition occurrences of the word "medium" for greater consistency with the other pending claims. Exemplary support for these amendments may be found in the specification, for instance, in the original claims, in the Examples, and in paragraph [0032] of the specification as-published. Accordingly, the claims have written description support. Claims 1, 2, 4-6, 8-16, 28, and 29 are presented for examination.

NOTICE OF NON-COMPLIANT AMENDMENT

The Office indicates in the Notice of Non-Compliant Amendment that claim 18 was presented twice in the listing of claims contained in the Amendment filed on October 9, 2009. Applicants enclose a new listing of claims in compliance with 37 C.F.R. § 1.121(c)(2) to replace the listing submitted with the Amendment filed on October 9, 2009. The claims in the enclosed claim listing are in ascending numerical order and are accompanied by the appropriate status indicators. Applicants request that the Examiner consider these claims with the remarks submitted below.

REQUEST FOR CORRECTED FILING RECEIPT

Applicants note that a Request for Corrected Filing Receipt was filed in this application on May 10, 2007. The Request and its accompanying marked-up copy of the original Filing Receipt are present in the Image File Wrapper on PAIR. However, neither a Corrected Filing Receipt nor any other response to Applicants' Request has been received by Applicants' undersigned representatives.

There are two errors on the original Filing Receipt. First, the filing or § 371 date is incorrectly listed as **August 11, 2006**. The correct date is **January 24, 2007**. Second, the third foreign priority application is incorrectly listed as United Kingdom **03250073**. The correct application number is United Kingdom **0325007.3**. The corrections are shown in ink on the copy of the Filing Receipt submitted with the Request for Corrected Filing Receipt filed on May 10, 2007. This Request was also accompanied by a copy of the Electronic Acknowledgement Receipt which indicates the submission of the Declaration and Power of Attorney, and the subsequent completion of Missing Requirements, on January 24, 2007. Finally, the priority application, United Kingdom App. No. 0325007.3, is also present in the Image File Wrapper for this application, having been filed in the initial national phase filing of this application of April 17, 2006.

Applicants respectfully request that the Office issue a Corrected Filing Receipt as soon as possible.

REJECTIONS UNDER 35 U.S.C. § 112 SECOND PARAGRAPH

Claims 3, 12-16, 28, and 29 stand rejected as allegedly indefinite. June 12, 2009, Office Action ("Office Action") at 2-3. Specifically, the Office contends that the phrase "free of serum extract" renders claim 3 allegedly indefinite, that claim 12 and its dependents are allegedly unclear as to whether activating gp130 signalling occurs as a result of culturing the cell in a medium containing an Id protein or as an independent step, and that claim 28 and its dependent are allegedly unclear in referring to "a cell" while being drawn to a method of obtaining "a pluripotent cell."

Regarding the phrase "free of serum extract," without acquiescing to the Office's rationale, Applicants have canceled claim 3 and deleted references elsewhere to being "free of serum extract."

Regarding whether activating gp130 signalling occurs as a result of culturing the cell in a medium containing an Id protein or as an independent step, without acquiescing to the Office's rationale, Applicants have amended claim 12 to recite "and then (2) activating gp130 downstream signaling," as suggested by the Examiner.

Regarding referring to "a cell" while being drawn to a method of obtaining "a pluripotent cell," without acquiescing to the Office's rationale, Applicants have amended claim 28 to recite "a pluripotent cell" in accordance with the Examiner's suggestion.

Applicants respectfully submit that the claims as amended are not indefinite and request the withdrawal of the rejections under 35 U.S.C. § 112, second paragraph.

REJECTIONS UNDER 35 U.S.C. § 103

Claims 1, 2, 4-6, and 11

Claims 1, 2, 4-6, and 11 stand rejected as allegedly unpatentable over Biochem. Biophys. Res. Commun. 276:803-812 (2000; "Noguiera") in view of Cell 61:49-59 (1990; "Benezra") and U.S. Patent 5,871,961 (1999; "Smith"). Office Action at 4-5.

Claim 1 has been amended to recite "culturing pluripotent cells in a serum-free and feeder cell-free medium comprising an Id gene product." Applicants note that the Office has not rejected claim 3 over the combination of Noguiera, Benezra, and Smith; claim 3, now canceled, previously recited "[t]he method according to Claim 1, wherein the medium is free of serum and serum extract." Applicants respectfully submit that the combination of Noguiera, Benezra, and Smith does not teach or suggest "culturing pluripotent cells in a serum-free and feeder cell-free medium comprising an Id gene product," and request the withdrawal of the rejection of claims 1, 2, 4-6, and 11 over Noguiera in view of Benezra and Smith.

Claims 1, 2, 4-6, and 8-11

Claims 1, 2, 4-6, and 8-11 stand rejected as allegedly unpatentable over Noguiera in view of Benezra and U.S. Application Publication 2002/0146689 ("Blackburn"). Office Action at 6-7. As discussed above, Applicants respectfully submit that the combination of Noguiera and Benezra do not teach or suggest "culturing pluripotent cells in a serum-free and feeder cell-free medium comprising an Id gene product." Applicants further submit that Blackburn does not remedy this deficiency.

Therefore, Applicants respectfully request the withdrawal of the rejection of claims 1, 2, 4-6, and 11 over Noguiera in view of Benezra and Blackburn.

Claims 1-6, 8-16, 28, and 29

Claims 1-6, 8-16, 28, and 29 stand rejected as allegedly unpatentable over Noguiera in view of Benezra, Smith, Blackburn, and U.S. Patent 6,280,718 (2001; "Kaufman"). Office Action at 7-10. Specifically, the Office contends that Noguiera allegedly teaches culturing mouse embryonic stem (ES) cells in LIF-containing medium, but admits that Noguiera does not teach any of culturing ES cells with an Id gene product, expressing an Id gene product in cells, or culturing ES cells in serum-free medium. The Office further contends that Benezra allegedly discloses Id cDNA and allegedly teaches that transfecting undifferentiated cells with Id DNA inhibits their differentiation and allegedly suggests expressing Id in additional cell types. The Office also contends that Smith allegedly teaches methods for producing recombinant histidine-tagged CR8, and that Blackburn allegedly teaches vectors and methods for expressing cDNAs of interest episomally in ES cells. In addition, the Office contends that Kaufman allegedly teaches a method for maintaining ES cells in an undifferentiated state by culturing them in a medium containing serum-free serum replacement. The Office alleges that in view of these references, it would have been obvious to one of ordinary skill to perform the methods of claims 1-6, 8-16, 28, and 29 with a reasonable expectation of success. *Id.*

Claim 3 is canceled without prejudice or disclaimer by this amendment, rendering this rejection moot as to claim 3. As to claims 1, 2, 4-6, 8-16, 28, and 29, Applicants respectfully traverse. The Office Action contains an allegation that Benezra teaches "that transfecting undifferentiated cells with Id cDNA inhibits their differentiation (pages 53-54)." Office Action at p. 8, ll. 4-5. Applicants are unable to find the basis for this assertion. Applicants note that Benezra contains the following statements in pp. 53-54:

> Id can associate with other HLH proteins (or protein complexes) and thereby attenuate their ability to bind DNA.

Benezra at 53, column 1.

> The presence of Id protein is either directly or indirectly inhibiting the ability of exogenous MyoD to trans-activate the MCK enhancer.

Id. at 53, column 2.

> The effect of constitutive expression of Id in other cell culture systems is currently being tested.

Id. at 54, column 1. Thus, the passage of Benezra cited by the Office concerns particular molecular-level activities of Id and does not make a general assertion or conclusion about cellular-level effects in undifferentiated cells, but rather indicates that tests "in other cell culture systems" are ongoing. Applicants respectfully submit that Benezra does not contain a general teaching that transfecting undifferentiated cells with Id cDNA inhibits their differentiation. Applicants further submit that no other reference or evidence cited by the Office contains such a teaching. Thus, there is no valid finding of fact that transfecting undifferentiated cells with Id cDNA inhibits their differentiation.

Therefore, one of ordinary skill would have no reason or motivation to arrive at the claimed method and furthermore would lack a reasonable expectation of success in carrying out the method.

As to the Office's allegation that Kaufman teaches a method for maintaining ES cells in an undifferentiated state by culturing them in a medium containing serum-free serum replacement, Applicants respectfully point out that claim 1 as amended recites "culturing pluripotent cells in a serum-free and feeder cell-free medium." Kaufman does not meet this limitation; rather, mouse embryonic fibroblasts are used as feeder cells in the single disclosed procedure for culturing and passaging of ES cells in Kaufman. *See, e.g.,* Kaufman at col. 4, ll. 20-24, 30, 35, and 56-58. Applicants are unable to identify any indication in Kaufman that the use of feeder cells is optional in the procedure. Thus, Applicants respectfully submit that Kaufman teaches away from the methods of the claims as-amended, because one of skill in the art would be led to use feeder cells, as Kaufman did.

Applicants further submit that no other reference, evidence, or combination thereof cited by the Office meets the limitation of "culturing pluripotent cells in a serum-free and feeder cell-free medium." Thus, there is no valid finding of fact that culturing pluripotent cells in a serum-free and feeder cell-free medium can result in promoting self-renewal of pluripotent cells in culture.

Accordingly, Applicants respectfully submit that the claims are not obvious because there is no evidence that the prior art contains teachings that would lead one

of ordinary skill to perform the claimed methods or to have a reasonable expectation of success in doing so. There is no valid finding that transfecting undifferentiated cells with Id cDNA inhibits their differentiation, and there is no valid finding that self-renewal of pluripotent cells in culture can be promoted by culturing pluripotent cells in a serum-free and feeder cell-free medium. Accordingly, Applicants respectfully request withdrawal of the rejection over Noguiera in view of Benezra, Smith, Blackburn, and Kaufman.

CONCLUSION

In view of the foregoing amendments and remarks, Applicants respectfully request reconsideration and reexamination of this application and the timely allowance of the pending claims.

Please grant any extensions of time required to enter this response and charge any additional required fees to Deposit Account No. 06-0916.

Respectfully submitted,

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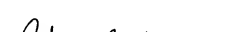
Dated: January 11, 2010

By: 

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